

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A00009CH
Revision 6
Cirrus Design Corporation
SR20
SR22
March 1, 2004

TYPE CERTIFICATE DATA SHEET NO. A00009CH

This data sheet, which is part of Type Certificate No. A00009CH, prescribes conditions and limitations under which the product for the which type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Cirrus Design Corporation
4515 Taylor Circle
Duluth, MN 55811

I - Model SR20, (Normal Category), Approved October 23, 1998

Engine	Teledyne Continental IO-360-ES, Type Certificate Data Sheet (TCDS) E1CE
Fuel	100/100LL minimum grade aviation gasoline
Engine Limits	Maximum Take-off 2700 RPM (200 hp) Maximum Continuous Power 2700 RPM (200 hp)
Propeller and Propeller limits	1. Hartzell Propeller Inc. P/N BHC-J2YF-1BF/F7694 TCDS P37EA Maximum Diameter: 76 inches Minimum Diameter: 73 inches Number of Blades: 2 Low Pitch: 14.6°+/-0.1° High Pitch: 35.0°+/-1.0° Not to be operated above 24 inches of manifold pressure between 1900 and 2200 RPM. Spinner: Hartzell P/N A-2295(P) NOTE: Spinner may be painted or polished. 2. Hartzell Propeller Inc. P/N PHC-J3YF-1MF/F7392-1 TCDS P36EA Maximum Diameter: 74 inches Minimum Diameter: 72 inches Number of Blades: 3 Low Pitch: 14.1°+/-0.1° High Pitch: 35.0°+/-1.0° No operating limitations to 2800 RPM Spinner: Hartzell P/N A-2295-1P 3. Hartzell Propeller Inc. P/N PHC-J3YF-1RF/F7392-1 TCDS P36EA Maximum Diameter: 74 inches Minimum Diameter: 72 inches Number of Blades: 3 Low Pitch: 14.1°+/-0.1° High Pitch: 35.0°+/-1.0° No operating limitations to 2800 RPM Spinner: Hartzell P/N A-2295-1(P) NOTE: Spinner may be painted or polished.

Page No.	1	2	3	4	5	6
Rev. No.	6	4	6	6	6	5

Airspeed Limits	<u>S/N 1005 thru 1147:</u>	
	V _{ne}	Never Exceed Speed 200 KIAS
	V _{no}	Maximum Structural Cruising Speed 165 KIAS
	V _o	(2900 lbs) Operating Maneuvering Speed 135 KIAS
	V _o	(2600 lbs) Operating Maneuvering Speed 126 KIAS
	V _o	(2200 lbs) Operating Maneuvering Speed 116 KIAS
	V _{fe}	Maximum Flap Extension Speed 100 KIAS
	V _{pd}	Maximum Parachute Deployment Speed 135 KIAS
	<u>S/N 1148 and subsequent, and S/N 1005 thru 1147 if Cirrus Service Bulletin SB 20-01-00 is complied with:</u>	
	V _{ne}	Never Exceed Speed 200 KIAS
	V _{no}	Maximum Structural Cruising Speed 165 KIAS
	V _o	(3000 lbs) Operating Maneuvering Speed 131 KIAS
	V _o	(2600 lbs) Operating Maneuvering Speed 122 KIAS
	V _o	(2300 lbs) Operating Maneuvering Speed 114 KIAS
	V _{fe}	Maximum Flap Extension Speed 100 KIAS
	V _{pd}	Maximum Parachute Deployment Speed 135 KIAS
C.G. Range	<u>S/N 1005 thru 1147:</u>	
	Forward Limits: 138.7 inches at 2110 lbs with a straight line taper to 141.0 inches at 2694 lbs, and 143.0 inches at 2900 lbs.	
	Aft Limits: 144.6 inches at 2110 lbs, with straight line taper to 147.4 inches at 2570 lbs, and to 147.9 inches at 2745 lbs, and 148.2 inches at 2900 lbs.	
	<u>S/N 1148 and subsequent, and S/N 1005 thru 1147 if Cirrus Service Bulletin SB 20-01-00 is complied with:</u>	
	Forward Limits: 138.7 inches at 2110 lbs with a straight line taper to 141.0 inches at 2694 lbs, and 144.1 inches at 3000 lbs.	
	Aft Limits: 144.6 inches at 2110 lbs, with straight line taper to 147.4 inches at 2570 lbs, and to 148.1 inches at 2900 lbs, and 148.0 inches at 3000 lbs.	
Empty Weight		
C.G. Range	None	
Maximum Weight	<u>S/N 1005 thru 1147:</u>	
	Takeoff and Landing: 2900 lbs.	
	<u>S/N 1148 and subsequent, and S/N 1005 thru 1147 if Cirrus Service Bulletin SB 20-01-00 is complied with:</u>	
	Takeoff:	3000 lbs.
	Landing:	2900 lbs.
	Zero Fuel:	2900 lbs.
Minimum Crew	One (1) Pilot	
Number of Seats	4 (2 at 143.5 inches aft of datum, 2 at 180 inches aft of datum)	
Maximum Baggage	130 Lbs. at 208 inches	
Fuel Capacity Total:	60.5 gal at 153.75 inches	
	Usable: 56 gal (See Note 1)	
Oil Capacity	8 quarts at 76.2 inches	

Maximum Operating Altitude	With a portable oxygen system, the aircraft is limited to 17,500 ft MSL. Oxygen must be provided as required by the operating rules. Only portable oxygen systems listed in the FAA Approved Airplane Flight Manual, document number 11934-002, or later FAA approved revisions, are allowed.		
Control Surface Movements	Wing Flaps:	Up $0^{\circ} \pm 0.5^{\circ}$	Down 50% $16^{\circ} \pm 0.5^{\circ}$ Down 100% $32^{\circ} \pm 0.5^{\circ}$
	Aileron:	Up $12.5^{\circ} \pm 1.0^{\circ}$	Down $12.5^{\circ} \pm 1.0^{\circ}$
	Elevator:	Up $25.0^{\circ} \pm 1.0^{\circ}$	Down $15^{\circ} \pm 1.0^{\circ}$
	Rudder:	Right $20.0^{\circ} \pm 1.0^{\circ}$	Left $20.0^{\circ} \pm 1.0^{\circ}$
Additional Limitations:	Airframe life limit: 12,000 flight hours		
Design Data:	The airplane shall be manufactured in accordance with the latest FAA approved revision of "Master Drawing List", Document No. 13750, or other FAA approved data. NOTE: Document No. 12609 is the predecessor document to Document No. 13750.		
Serial Nos. Eligible	1005 and on		

II - Model SR22, Normal Category, Approved November 30, 2000

Engine	Teledyne Continental IO-550-N, Type Certificate Data Sheet E3SO		
Engine Limits	Maximum Take-off	2700 RPM (310 hp)	
	Maximum Continuous Power	2700 RPM (310 hp)	
Propeller and Propeller limits	<div>1. Hartzell Propeller Inc. P/N PHC-J3YF-1RF/F7694 or F7694B TCDS P36EA Hartzell Maximum Diameter: 78 inches Minimum Diameter: 76 inches Number of Blades: 3 Low Pitch: 14.1°+/-0.1° High Pitch: 35.0°+/-1.0° No operating limitations to 2700 RPM Spinner: Hartzell P/N A-2295-1(P) NOTE: Spinner may be painted or polished.</div> <div>2. McCauley Propeller Systems P/N D3A34C443/78CYA-0 TCDS P47GL McCauley Maximum Diameter: 78 inches Minimum Diameter: 76 inches Number of Blades: 3 Low Pitch: 11.8° at 30” station High Pitch: 31.5° at 30” station No operating limitations to 2700 RPM Spinner: McCauley D-7779-1 (Polished) or D-7779-2 (Satin)</div> <div>3. Hartzell Propeller Inc. P/N PHC-J3YF-1RF/F7693DFB or F7693DFB TCDS P36EA Hartzell Maximum Diameter: 78 inches Minimum Diameter: 76 inches Number of Blades: 3 Low Pitch: 12.0°+/-0.1° High Pitch: 40.0°+/-1.0° No operating limitations to 2700 RPM Spinner: Hartzell P/N A-2295-1(P) NOTE: Spinner may be painted or polished.</div>		

Airspeed Limits	Vne	Never Exceed Speed	204 KCAS
	Vno	Maximum Structural Cruising Speed	180 KCAS
	Vo	(3400 lbs) Operating Maneuvering	133 KIAS
	Vo	(2900 lbs) Operating Maneuvering	124 KIAS
	Vo	(2400 lbs) Operating Maneuvering	112 KIAS
	Vfe	Maximum Flap Extension Speed	104 KIAS
	Vpd	Maximum Parachute Deployment Speed	133 KIAS
C.G. Range	Forward: 138.0 inches at 2200 lbs with a straight line taper to 139.1 inches at 2700 lbs, and to 141.4 inches at 3210 lbs and 143.8 inches at 3400 lbs.		
	Aft: 148.1 inches at 2200 lbs, with straight line to 148.1 inches at 3400 lbs.		
Empty C.G. Range	None		
Maximum Weight	3400 lbs		
Minimum Crew	One (1) Pilot		
Number of Seats	4 (2 at 143.5 inches aft of datum, 2 at 180 inches aft of datum)		
Maximum Baggage	130 Lbs. at 208 inches		
Fuel Capacity Total:	84 gallon at 154.9 inches		
	Usable: 81 gallon (See Note 1)		
Oil Capacity	8 quarts at 77.1 inches		
Maximum Operating Altitude	With a portable oxygen system, the aircraft is limited to 17,500 ft MSL. Oxygen must be provided as required by the operating rules. Only portable oxygen systems listed in the FAA Approved Airplane Flight Manual, document number 13772-001, or later FAA approved revisions, are allowed.		
Control Surface Movements	Wing Flaps:	Up $0^{\circ} \pm 0.5^{\circ}$	Down 50% $16^{\circ} \pm 0.5^{\circ}$ Down 100% $32^{\circ} \pm 0.5^{\circ}$
	Aileron:	Up $12.5^{\circ} \pm 1.0^{\circ}$	Down $12.5^{\circ} \pm 1.0^{\circ}$
	Aileron Trim:	Up $6 \pm 1.0^{\circ}$	Down $6 \pm 1.0^{\circ}$
	Elevator:	Up $25.0^{\circ} \pm 1.0^{\circ}$	Down $15^{\circ} \pm 1.0^{\circ}$
	Elevator Trim	Up $11.5^{\circ} \pm 0.5^{\circ}$,	Down $17^{\circ} +1.0^{\circ}/-2.0^{\circ}$
	Rudder:	Right $20.0^{\circ} \pm 1.0^{\circ}$	Left $20.0^{\circ} \pm 1.0^{\circ}$
Additional Limitations:	Airframe life limit: 4,350 flight hours		
Design Data:	The airplane shall be manufactured in accordance with the latest FAA approved revision of "Master Drawing List", Document No. 13750, or other FAA approved data.		
Serial Nos. Eligible	0001 and on.		

Data Pertinent to All Models

Reference Datum	100 inches in front of the forward face of firewall bulkhead
Leveling Means	Door sill and leveling points as defined in AFM

Certification Basis Model SR20: Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 through 23-47, except as follows:

FAR 23.573, 23.575, 23.611, 23.657, 23.673 through Amendment 23-48;

FAR 23.783, 23.785, 23.867, 23.1303, 23.1307, 23.1309, 23.1311, 23.1321, 23.1323, 23.1329, 23.1361, 23.1383, 23.1401, 23.1431, 23.1435 through Amendment 23-49;

FAR 23.3, 23.25, 23.143, 23.145, 23.155, 23.1325, 23.1521, 23.1543, 23.1555, 23.1559, 23.1567, 23.1583, 23.1585, 23.1589 through Amendment 23-50;

FAR 23.777, 23.779, 23.901, 23.907, 23.955, 23.959, 23.963, 23.965, 23.973, 23.975, 23.1041, 23.1091, 23.1093, 23.1107, 23.1121, 23.1141, 23.1143, 23.1181, 23.1191, 23.1337 through Amendment 23-51;

FAR 23.1305 through Amendment 23-52

Model SR22: Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 through 23-53, except as follows:

23.301 through Amendment 47

23.855, 23.1326, 23.1359, not applicable

FAR 36 dated December 1, 1969, as amended by current amendment as of the date of type Certification.

Equivalent Safety Items Equivalent Levels Of Safety finding (ACE-96-5) made per the provisions of 14 CFR Part 23.221; Refer to FAA ELOS letter dated June 10, 1998 for models SR20, SR22.

Equivalent Levels Of Safety finding (ACE-00-09) made per the provisions of 14 CFR Part 23.1143(g) and 23.1147(b); Refer to FAA ELOS letter dated September 11, 2000 for model SR22.

Equivalent Levels Of Safety finding (ACE-01-01) made per the provisions of 14 CFR Part 23.1143(g) and 23.1147(b); Refer to FAA ELOS letter dated February 14, 2001 for model SR20.

Special Conditions 23-ACE-88 for ballistic parachute.
23-134-SC for protection of systems for High Intensity Radiated Fields (HIRF).

Production Basis Production Certificate 338CE issued June 12, 2000

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the airplane for certification.

In addition to the above required equipment, the following equipment are also required: The latest FAA approved Revision of the "PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL FOR THE CIRRUS SR20", Document No. 11934-002 and the latest FAA approved Revision of the "PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL for the CIRRUS DESIGN SR22", Document No. 13772-001.

Note 1. A current weight and balance report including list of equipment included in the certificated empty weight, and loading instructions when necessary must be provided for each aircraft at the time of original certification. The certificated empty weight and loading corresponding center of gravity location must include unusable fuel of 27 lb. at (+153.8 inches) for model SR20; and unusable fuel of 18 lb at (+154.9 inches) for model SR22.

- Note 2. All placards specified in the latest FAA approved revisions of the "PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL FOR THE CIRRUS SR20", document number 11934-002 and the latest FAA approved revisions of the "PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL FOR THE CIRRUS SR22" document number 13772-001 must be displayed in the airplane in the appropriate locations. Exterior colors are to be limited to those specified in the latest FAA approved revisions of the "PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL FOR THE CIRRUS SR20" Document 11934-002 and latest FAA approved revisions of the "PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL FOR THE CIRRUS SR22" document number 13772-001.
- Note 3. FAA approved Airworthiness Limitations for inspection time limits and maintenance checks are included in Section 4 and 5 of the Airplane Maintenance Manual (AMM) Document No. 12137-001 for model SR20, and 13773-001 for model SR22.
- Note 4. Exterior colors are limited to those specified in the latest FAA approved revision of the Airplane Maintenance Manual (AMM) Document No. 12137-001 for model SR20, and 13773-001; for model SR22.
- Note 5. Major structural repairs must be accomplished in accordance with FAA approved Cirrus Design repair methods or other methods approved by the FAA.

-- END --